

# MATERIAL SAFETY DATA SHEET

**SRM Supplier:** National Institute of Standards and Technology  
Standard Reference Materials Program  
100 Bureau Drive, Mail Stop 2321  
Gaithersburg, MD 20899-2321

**SRM Number:** 8040  
**MSDS Number:** 8040  
**SRM Name:** Sodium Oxalate Reductometric  
Standard  
**Date of Issue:** 07 November 2003

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## SECTION I. MATERIAL IDENTIFICATION

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**Material Name:** Sodium Oxalate Reductometric Standard

**Description:** A unit of RM 8040 consists of one bottle containing 60 g of crystalline sodium oxalate.

**Other Designations:** Sodium Oxalate (ethanedioic acid; disodium salt; oxalic acid)

Name	Chemical Formula	CAS Registry Number
sodium oxalate	$\text{Na}_2\text{C}_2\text{O}_4$	62-76-0

**DOT Classification:** Not Hazardous by DOT Regulations

**Manufacturer/Supplier:** It is available from a number of suppliers.

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## SECTION II. HAZARDOUS INGREDIENTS

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Hazardous Component	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Sodium Oxalate	100	No occupational exposure limits established
		Mouse, Subcutaneous: LD <sub>50</sub> : 100 mg/kg
		Human, Intravenous: LD <sub>50</sub> : 17 mg/kg

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## SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

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Sodium Oxalate	
<b>Appearance and Odor:</b> white powder with no odor	<b>Melting Point:</b> decomposes between 250 °C and 270 °C
<b>Relative Molecular Mass:</b> 134	<b>pH (0.5 M Solution):</b> not available
<b>Specific Gravity:</b> 2.34	<b>Odor Threshold:</b> not available
<b>Vapor Pressure:</b> not applicable	<b>Water Solubility:</b> soluble (3.7 gm/100 ml @ 20 °C)
<b>Freezing Point:</b> not available	<b>Solvent Solubility:</b> insoluble in alcohol and ether, sparingly soluble in water

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#### SECTION IV. FIRE AND EXPLOSION HAZARD DATA

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**Flash Point:** Not Applicable      **Method Used:** Not Applicable      **Autoignition Temperature:** Not Applicable

**Flammability Limits in Air (Volume %):** **UPPER:** Not Applicable  
**LOWER:** Not Applicable

**Unusual Fire and Explosion Hazards:** This material is a slight fire hazard. Dust/air mixtures may ignite or explode.

**Hazardous Combustion Products:** Will decompose in general fire giving off carbon monoxide and carbon dioxide. Firefighters wear SCBA. NFPA # 3-0-1.

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#### SECTION V. REACTIVITY DATA

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**Stability:**        X   **Stable**                             **Unstable**

**Conditions to Avoid:** Protect from moisture.

**Incompatibility (Materials to Avoid):** Keep from strong oxidizing agents and strong acids.

**Hazardous Polymerization**                             **Will Occur**                        X   **Will Not Occur**

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#### SECTION VI. HEALTH HAZARD DATA

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**Route of Entry:**      X   **Inhalation**                             **Skin**                        X   **Ingestion**                        X   **Injection**

**Health Hazards (Acute and Chronic):** May be irritating to eyes, skin, and mucous membranes. Toxic by ingestion, inhalation or injection. Not absorbed through skin. Symptoms of poisoning include: nervousness, cramps and CNS depression. Death can occur within minutes. Chronic exposure may lead to kidney problems. No LD/TD information found for normal routes of occupational exposure. No evidence of carcinogenicity. OSHA PEL/ACGIH TLV not established.

**Medical Conditions Generally Aggravated by Exposure:** Not Available

**Listed as a Carcinogen/Potential Carcinogen:**

	<b>Yes</b>	<b>No</b>
In the National Toxicology Program (NTP) Report on Carcinogens	<u>      </u>	<u>  X  </u>
In the International Agency for Research on Cancer (IARC) Monographs	<u>      </u>	<u>  X  </u>
By the Occupational Safety and Health Administration (OSHA)	<u>      </u>	<u>  X  </u>

#### EMERGENCY AND FIRST AID PROCEDURES:

**Skin Contact:** Wash thoroughly with water. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

**Eye Contact:** Wash thoroughly with water, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance if necessary.

**Inhalation:** If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

**Ingestion:** If swallowed, give water or milk and induce vomiting. Get medical attention immediately.

**TARGET ORGAN(S) OF ATTACK:** kidneys

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#### SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

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**Steps to be Taken in Case Material Is Released:** Sweep spill carefully without raising dust. Wash area well with water. Collect for suitable disposal. Notify safety personnel of large spills.

**Waste Disposal:** Follow all federal, state, and local laws governing disposal.

**Handling and Storage:** Wear goggles and rubber gloves while handling. Use adequate ventilation or suitable respirator to avoid inhalation.

**NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

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#### SECTION VIII. SOURCE DATA/OTHER COMMENTS

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**Sources:** MDL Information Systems, Inc., MSDS *Sodium Oxalate*, 19 March 2003.  
GFS Chemicals, Inc., Sodium Oxalate, 11 April 2001.

**Disclaimer:** Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The reference value for this material is given on the NIST Report of Investigation.